a)PART_to_de(PART: introduction on magnetic tape

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Welcome to the *wonderful* **world** of **magnetic tape**!

Magnetic tape:

- Around since 1928 (developed in Germany)

- commercialized by the compact cassette (invented in Belgium by Phillips)
- first as a carrier for audio, later for video (VCR) and data (binary information)

A new music industry standard:

- Magnetic tape revolutionized sound recording and reproduction and broadcasting (reel-to-reel)
- multi-track recording: layering/adding tracks and mixing
- instead of 1 take of all instruments: redo certain parts and record on a different moment ("together alone")
- 'Musique Concrete': experimentation with cutting up tape as an artistic practice
- sound processing: echo machines (such as tape delay)

> <img> recording studio's

> <img> tape delay

Compact cassette tape: a 'consumer friendly' audio carrier

- pre-recorded music released on tape were cheaper than f.i. vinyl
- small format + mechanism didn't skip: portable (walkman / boomboxes)
- empty tapes: raised questions concering piracy issues (radio recordings and duplication)
- creative usage: DIY sampling and looping was used for creating first hip hop beats

> <img> compact cassette

Current usage:

- ressurection as a physical carrier (like a vinyl record)
- material qualities: warm sound
- counter culture: lo-fi! (physical connection)

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a)PART_to_de(PART: (very short) TECH TALK
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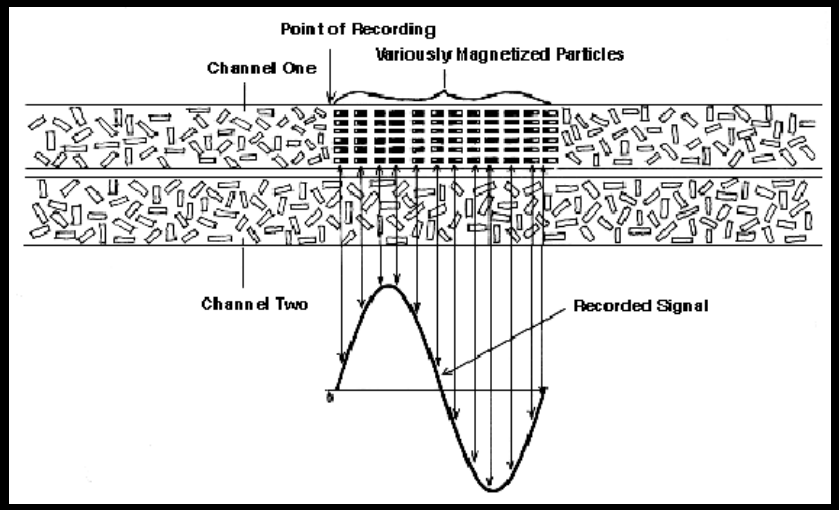
How does *it* work?

Magnetic tape recording **works** by converting electrical audio signals into **magnetic** energy, which imprints a record of the signal onto a moving **tape** covered in **magnetic** particles.

Basically:

- audio signal > voltage > magnetic force (flux)
- result: this triggers the metal particles into a pattern
- material characteristics: more ferro particles, better quality

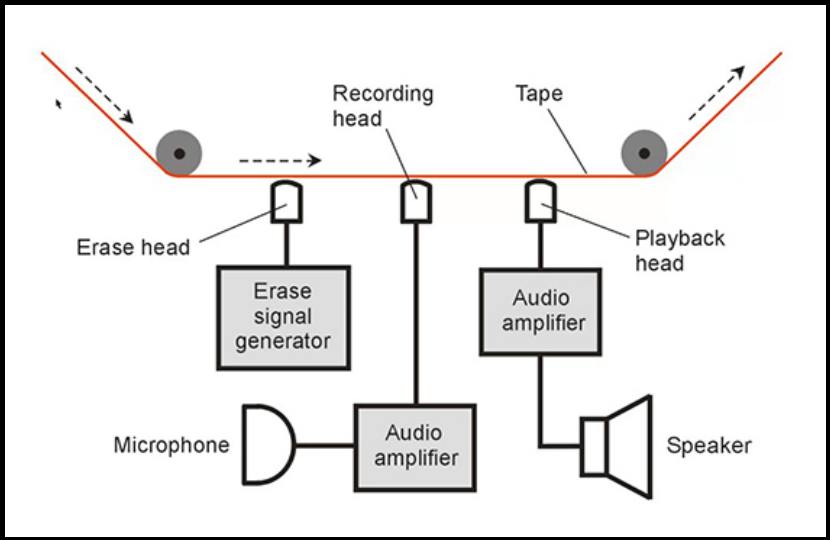


> <img> magnetic particles
> tape viewer: https://youtu.be/aZOxn8ggX8w?t=22

Mechanism:

- erase head

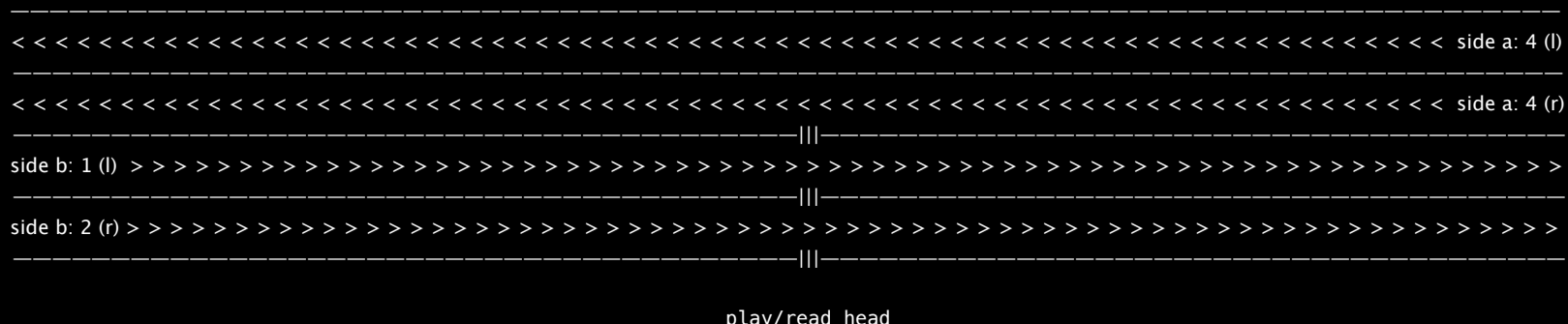
- record head
- Play head



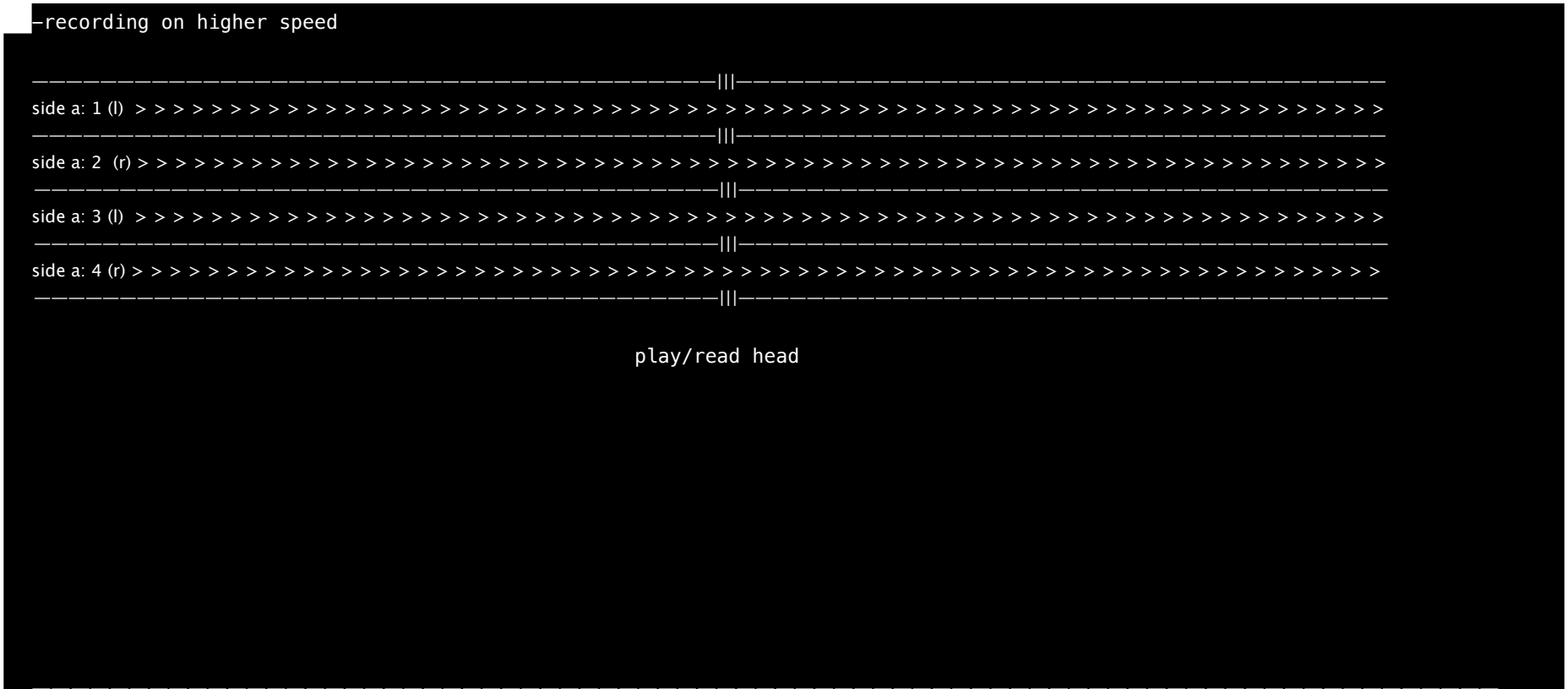
<img> mechanism

Multiple ways to order and use the particles

Normal compast cassette
-2 sided (split in 4 channels: 2 channels per side)
-recording on normal speed



4-track
-1 sided (4 channels on 1 side)



Why we will use it today?

- possibility to record directly on actual material (analog recording/playback)
- we can modify the mechanism (deconstructing sound by slowing down speed)
- 'hack' the medium and make continuous loops (decontruction of the medium carrier)
- this comes with some 'material quirks' such as hiss, 'wobble', grain.

Methods we will use:
- normal compact 'reel-to-reel': 60/90 min. running time
- tape loop: DIY method to play continous sounds or samples (variation in time)

Todays selection in "*MARK'S **WACKY~TEC** CORNER*"

Today's line-up: methods to record on tape and playback

- tape deck: recording and playback station
- 4 track: multi layered recording and volume control
- tabletop: used for recording speech and sounds: recording can be done directly onto the material
- walkman as we all know it: playback only
- mixer: to adjust volume of inputs and add sexy reverb for experimental ambient

Extra bonus feature!

- some of them have a very cool feature: pitch control (hear the grain of the material: play with this to deconstruct the sound!)

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Q: Nice gear, bruh… but do you expect me to even have a clue how to use it?

A: NO! Tell me what you want: I will help and I will share tips!

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recording methods:

- record directly on tape and playback, add recording: play with pause button or long parts
- record on phone, select sound and use line-in for clean recordings
- while playing live: it's possible to sample on the fly!

– TIP: use pause > record > pause method for recording

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a)PART_to_de(PART: the fun part

NOW: TAPE LOOP TIME!

> step-by-step

You will need:
- tape (21,9 cm)
- scissors
- ruler
- screwdriver
- scotch tape
- fine motor skills
- patience :)

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resources:
https://en.wikipedia.org/wiki/Magnetic_tape
- https://daily.redbullmusicacademy.com/2019/04/pause-tape-production-feature
- recording process: https://youtu.be/8o5racwCzck
- physics of tape: https://youtu.be/5W8NCLM6s88
- Amulets: creating tape loop
- Hainbach: various ways of implementing tape in experimental drone music
- https://www.youtube.com/watch?v=VUmvajSUOfc